59. The third stage in the specific Decisional System

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Probabilidad Imposible: The third stage in the specific Decisional System

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In general, the third stage in all Artificial Intelligence, programs or applications, is the auto-replication stage, in particular the third stage in Artificial Research by Deduction is additionally the decision stage, In the specific Decisional System means that once all normal decisions have passed the rational adjustments, quick decisions the quick rational check, all the decisions which have passed their respective adjustments or checks, are considered as the most rational without contradiction to the mathematical projects, and, in order to be applied by the specific Application System, as third step in the third phase, now these decisions must be transformed into a range of instructions.

In addition to the transformation of these decisions into a range of instructions, the third stage is still an auto-replication stage, so along with the setting of what instructions are sent to the specific Application System, it is necessary the comprehension of all the auto-replication processes that take place in this system as part of this third stage.

For that reason, the contents that I will develop in this post are: the transformation process of decisions into a range of instructions, taking as examples possible decisions made by what I call "Probability and Deduction", a general overview of what auto-replication processes are present in the specific Decisional System, and finally the pedagogical approach in the formation of Artificial Intelligence.

Starting with the first content mentioned above, the transformation of any rational decision without contradiction on the mathematical projects, or in case of contradiction, was fixed through the rational adjustments. This process in the third stage of specific Artificial Intelligence, as the second step in the third stage in the first phase, is to transform, into instructions, all the specific decisions related to a specific science, discipline, or activity, whose responsibility is that Specific Artificial Intelligence for Artificial Research by Deduction, and within, this specific Decisional System is on, as the second step in its third stage.

So if a Specific Artificial Intelligence for Artificial Research by Deduction is made for the management of a chain of factories responsible for the fabrication of some product, the specific Decisional System as the second step in the third stage in this Specific Artificial Intelligence for Artificial Research by Deduction in that chain of factories, manages all the decisions made by the previous first step in this third stage in this specific intelligence for this specific chain of factories, first step as specific Modelling System, which only models those models related to the rational hypothesis previously made in the second stage of this Specific Artificial Intelligence for Artificial Research by Deduction for this specific chain of factories.

Having said that, once any new decision, quick or normal, has passed its respective authorizations, which are: the authorization in quick decisions by the quick rational check, the authorization in normal decisions by rational adjustments; and once all new decisions, quick or normal, has been projected, according to the projects and any possible adjustment made in any of them, the decision, now transformed into a project, must be transformed into a range of instructions to be sent to the specific Application System for its implementation.

As long as this process becomes more and more complex, it is possible that, if at the beginning the decisions are pretty simple as decisions whose transformation into instructions depend mostly on the basic characteristic given in the single mathematical project, as long this process evolves and the Artificial Intelligences become more sophisticated, some decisions will not only need the transformation of the single mathematical project into a range of instructions, but the transformation, additionally, of all possible necessary instruction during the projection and evolution mathematical projects, or specific instructions to connect this decision to another one in the comprehensive mathematical project, or any other one.

In addition, it is necessary to mention that, even although one decision has been transformed into a range of instructions, it is still on the mathematical project, because the decision is still active because it is being implemented by the Application System, if at any time the comprehensive, prediction, evolution, actual mathematical project, shows any possible contradiction between this decision still on the mathematical projects and any data coming up to the actual projects from the matrix, a new range of instructions should be given to the Application System to avoid in the reality these contradictions detected in the actual projects.

This means that in reality, what is going to be transformed into a range of instructions is not one decision alone. What in reality is going to be transformed into a range of instructions is the whole mathematical project, as a system of projects, including the comprehensive, prediction and evolution, virtual and actual, projects.

Not because any decision whose single mathematical project has passed its respective authorization, quick rational check or normal rational adjustment, and not having contradiction in the comprehensive, prediction, evolution, virtual and actual, mathematical projects, once the decision is transformed into a range of instruction, not for that reason that decision is considered done so it would be considered off the mathematical projects.

Absolutely any decision that is still being implemented, by the specific Application System, is a decision that must still be on the mathematical projects. Only when one decision is completed can be off the mathematical project.

The definition of when a decision is on or is off, in the mathematical project, is really important, because regardless of any other condition, if a decision is still on, even although it has already been transformed into a range of instructions, if for any reason a contradiction between this decision and any other one, for instance a contradiction between this one and a new extreme priority decision, or a contradiction found in any actual mathematical project between this decision and data from the specific matrix, at any time that any contradiction for any reason is found in any decision regardless of its current status (if transformed or not into a range of decisions), automatically the mathematical projects related to this decision must be adjusted, and any adjustment sent to the third stage of the specific Decisional System to transform the adjustment into a new range of instructions, deleting all those previous instructions with contradiction with the new ones, in order to apply only the new instructions.

For that reason, it is very important to have a good definition of when a decision is on, and when a decision is off. Any decision should be considered on, even after being transformed into a range of instructions, it is still being implemented by the specific Application System. Any decision should be considered as off only when the Application System has completed the full implementation of that decision.

All decisions on, must be on the mathematical projects. All decisions off, must be off the mathematical projects.

Any decision on, even after having initially passed its particular authorization, for instance, a routine decision has passed the quick rational check, or a normal decision has passed the seven rational adjustments, and having the approbation to be transformed into a range of instructions, and the instructions are being implemented by the Application System, as the decision is still on the mathematical projects, at any time that for any reason (for instance the inclusion of a new extreme priority decision, or changes in the actual projects according to changes in the matrix), is necessary to make adjustments in those decisions still on, all adjustments in those decisions would be considered as if these adjustments were new decisions.

So there are at least two possible different decisions in the specific Decisional System according to their origin: 1) deductive decisions, as all those decisions based on mathematical models (made by the specific Modelling System) based on rational hypothesis, and 2) adjustment decisions as all those necessary adjustments made on the mathematical projects by the rational adjustments, adjustments that are going to be considered as decisions to save contradictions on the mathematical projects.

The difference between deductive decisions and adjustment decisions is the fact that: 1) deductive decisions are based on models based on rational hypothesis, and if the decision does not have any contradiction must be put into practice, or in case that in the previous authorization, quick rational check or rational adjustment, is found any contradiction, if the contradiction is partial then the decision is reformulated to save the contradiction, and must be applied with the last adjustments within, 2) adjustment decisions are all those decisions made directly on the mathematical projects to fix contradictions between decisions on but already transformed into instructions, so the only way to resolve the problem is deleting those contradictory instructions replacing them with a new range of instructions, and because this new adjustment on decisions still on, but already in process of implementation, needs a new range of instructions, this adjustment could be considered itself as a new decision.

For that reason, in synthesis, it is possible to identify two different sources of decisions: the mathematical model as a source of decisions based on rational hypotheses, and the mathematical project as a source of decisions based on rational adjustments.

Due to the complexity that the decision process has, the automation of the decision process needs some procedures to be standardised, to fix how to order the process of transformation of decisions into instructions, as a suggestion,n I will propose:

- Automatically, all single mathematical projects from all quick decisions, after passing the quick rational check, must be transformed as quick as possible into a range of instructions. If the process is sufficiently quick, there is no reason to think that a quick decision will need further adjustments with the specific matrix in the future. Any possible predictable contradiction between actual data and the decision should be checked in the quick rational check. Otherwise, even a quick rational check, especially in extreme priority decisions, should have rational adjustments with the actual data, but in that case, it would not be as quick as it should be.

- Automatically, all single mathematical projects from any normal decision, having passed the seven rational adjustments (even some of them having been adjusted in any one of the seven rational adjustments in case of detected contradictions), must be transformed into a range of instructions to be implemented by the specific Application System.

- Automatically, at any time that a new decision whose level of priority is higher than any other decision still on (and already transformed into a range of instructions), or the new one is an extreme priority decision, or there are contradictions between current decisions on (and already transformed into a range of instructions) and actual data from the matrix, all the decisions on (and already transformed into a range of instructions) under such circumstances must be adjusted to the new changes on the mathematical projects, the new adjustments considered as adjustments decisions, and as adjustment decisions to be transformed into a new range of instructions.

What is going to be important in the adjustment decision is the assignment of a priority level, as the deductive decisions have, by the application of the Impact of the Defect.

This means that along with the rational adjustments, another way to secure harmony in the mathematical projects, could be applying the Impact of the Defect and the Effective Distribution on the mathematical projects, to assess at any time, any impact and the levels of efficiency, efficacy, and productivity, across all the mathematical project. In that case, if a contradiction is detected in decisions still on, it would be easy to assign a priority level to that adjustment to become an adjustment decision associated with some priority level.

Once the decisions to be transformed have been identified: quick decisions, normal decisions, adjustment decisions; and once all of them have been authorised, the decisions must be transformed into a range of instructions in the third stage of the specific Decisional System.

All decision on the mathematical project is defined in mathematical terms. For instance, an artificial learning decision is based on empirical probability. A solving mathematical problem decision is another decision defined in mathematical terms. If it is possible to measure the impact of something in any model or project, it is because it is possible a mathematical definition of this object and its impact. Likewise, decisions based on Effective Distribution are based on a mathematical definition of efficiency, efficacy, and productivity. Like the possibility to make decisions based on trigonometrical correlations. And any possible decision based on Probability and Deduction is, in fact, an equation.

The ways mentioned above to make decisions based on mathematics: artificial learning, solving mathematical problems, Impact of the Defect, Effective Distribution, trigonometrical correlation, Probability and Deduction; are only some ways to make decisions mathematically, but I am sure that in coming years, from different approaches, new methodologies in this are going to merge for the construction of different models of Global Artificial Intelligences.

The approach given under the theory of Impossible Probability, if I am completely sure that these very basic ideas for the construction of the future Global Artificial Intelligences in Impossible Probability, are going to remain in the coming models of Global Artificial Intelligence, in addition to my personal contribution, new approaches from different countries, with different mathematical traditions and philosophies, are going to appear. As I have said before, what I am doing in this range of posts regarding the Global Artificial Intelligence, is only my personal contribution to a new field in which the race for the construction of the very first Global Artificial

Intelligence will attract the attention of many agencies around the world, whose work will bring us different perspectives.

Under the theory of Impossible Probability, and understanding that a decision is a mathematical expression: probabilistic, trigonometrical, arithmetical, equation, etc. The way in which the transformation of any decision, regardless of what type of expression is (probabilistic, trigonometrical, arithmetical, equation), into a range of instructions, is through the mathematical analysis of: the identification of what factors are in the mathematical expression, and what action is required by that mathematical expression.

One method to make the transformation of a decision into a range of instructions is:

- Firstly, identification of what factors are involved in the mathematical expression (probabilistic, trigonometrical, arithmetical, equation, etc.).

- Secondly, identification of what action is or what actions are required for every factor in the mathematical expression (probabilistic, trigonometrical, arithmetical, equation, etc.).

- Thirdly, the transformation of every action into a robotic operation. Every operation must be considered as one instruction. All the instructions in total, one per operation, are, as a whole, the total range of instructions to send to the Application System.

The instructions to send to the specific Application System consist of a range of instructions, in which every single instruction consists of one single robotic operation, so as a whole, the total number of instructions is the total number of operations to do by robotic devices, in order to comply with the whole decision approved on the mathematical project.

If Yolanda, because today is Monday, it is a nice day and she goes to work, she chooses a white blouse, blue skirt, and black shoes, the factors are these items: white blouse, blue skirt, and black shoes; the range of instructions consists of all the robotic operations required, one instruction per robotic operation, to get the clothes and put them on.

If an automatic system of transport, using Probability and Deduction, automatically gets the rational equations about the relations between the number of passengers and: timetables (when it is rush hour and when the frequency of passengers is lower), weather conditions (increment of passengers under bad weather conditions), calendar (average number of passengers at weekdays, weekends, bank holidays, festivities...), etc..; according to the rational hypothesis on this model, the automatic mathematical project would be based on what frequency of means of transport would be enough to cover the demand at any time, according to timetables, weather, calendar, etc. The mathematical project of means of transport under such rational hypothesis/project by Probability and Deduction, could directly transform the rational hypothesis as if the rational hypothesis worked as decisions, in order to be transformed into a range of instructions, ordering how many means of transport must be on at any time according to: timetables, weather, calendar, etc.; in order to keep high standards of efficiency, frequency, and productivity, standards permanently under assessment through the Effective Distribution, and any accident or problem detected could be assessed directly by the Impact of Defect.

If an automatic loan system in a bank, accepts loans according to the economic conditions of its clients, for instance debt capacity of 40%, properties, incomes, etc., so every condition works as a critical reason itself, a loan is accepted if the 40% of debt capacity of a customer allow him to pay the loan, or a loan is accepted if the properties of a customer are sufficient guarantee for the loan, or a loan is accepted if the client´s income is equal to or greater than some critical amount, and in general, under such critical reasons, by Probability and Deduction is possible to deduce the equation of the relation between loans and current clients, and under such deduction the bank has fixed some funds for loans, having a mathematical expression able to explain the distribution of funds in the bank for every sector, at any time that in any sector there is a change, able to suppose adjustments in the mathematical expression of distribution of funds across all the bank, affecting the funds in the automatic loan system, according to the new amount of funds available in the automatic loan system, the automatic loan system could make changes in the critical reasons, to accept only a general quantity of loans not superior to the funds available in the bank for the automatic loan system. If, because of the new changes, the fund for loans is lower, there can be changes in the critical reasons, such as the increment of the debt capacity required superior to 40%, the increment of the number of properties as guarantees for loans, or an increment in the client´s income required. Adjusting the rational reasons in order to only accept an exact general number of loans in total, not greater than the new funds available for loans in the bank

The frequency of means of transport in an automatic transport system, and what critical reasons must be fixed in an automatic loan system according to funds available, are

examples of how the transformation of decisions made by Probability and Deduction into a range of instructions could be done automatically.

Once the mathematical projects are done, the transformation of mathematical projects into a range of instructions could be automatic, if the factors in the mathematical expression are clear, and the operations to be performed are perfectly distinguishable.

The importance of these ideas behind "Probability and Deduction", as I have explained in the previous post: "The Decisional System", "The first stage in the specificDecisional System", and "The second stage in the specific Decisional System"; is the possibility to link directly: deduction, mathematical model, and mathematical project; so the same equation deduced in the deduction process, is at the same time single model to pass the rational checks, and single project to pass the rational adjustments or the quick rational check if it is a quick decision, to be transformed directly into a range of instructions, understanding for single instruction a single robotic operation sent to the Application System, in order to be matched with the corresponding application or robotic device, in order to comply, with the rest of instructions in the range of instructions in which the single instruction is made, a decision still on the mathematical project.

For the achievement of this level of automation in any Specific Artificial Intelligence for Artificial Research by Deduction in any specific science, discipline, or activity, activities such as an automatic transport system, an automatic loan system, or the automatization of all the processes in a chain of factories to order how many inputs needs to produce such amount of outputs to cover all the demand of its product under an affordable price, what is going to play a key role in all these processes of automation, is to keep permanently auto-improving and auto-enhancing the whole specific Decisional System.

Any contradiction, even the most menial contradiction, if it is not fixed on time, can provoke problems in the most unexpected factors in the mathematical project.

The auto-replication process an auto-improvement or auto-enhancement process, what it must improve and enhance first is the mathematical project itself, as a base for further instructions sent later to the Application System, in addition to the rest of the possible auto-replications.

As I have mentioned in other posts, the possible classification of auto-replications is: real objective auto-replications, explicative knowledge objective auto-replications,

comprehensive knowledge objective auto-replications, robotic subjective auto-replications, and artificial psychological subjective auto-replications.

The improvements in the database of decisions and mathematical projects through rational adjustments can be considered as explicative knowledge auto-replications, especially in those cases in which the equations to improve through rational adjustments are equations directly made by Probability and Deduction, because, in reality, what is going to be improved is directly a rational hypothesis.

The improvements in the third stage, as a transformation of decisions into a range of instructions, can be considered as real objective auto-replications, because, in reality, what is going to be improved is the reality itself through the implementation of these instructions.

If the decisions to be approved are decisions regarding the authorisation of any other improvement on any other system, program, application, or decision sent by the Learning System, this could be considered as an artificial psychological subjective auto-replication. However, about these decisions, I have not practically written yet, focusing the posts mainly on explicative auto-replications.

Another kind of decision that I have not developed so far, but must be included in the Decisional System, is those decisions sent by the Application System in order to make new robotic devices for those instructions in which they would be necessary, in case there is no robotic device currently doing some operation required for some instruction. These decisions would be considered robotic subjective auto-replications.

Likewise, another type of decision not developed so far but still on the Decisional System, is the access authorisation of any intelligence, program, or application, to the specific matrix, for instance, in the relations of collaboration in the second phase. These could be considered as comprehensive objective auto-replications, if this collaboration is with the corresponding Specific Artificial Intelligence for Artificial Research by Application, which would need access to the specific matrix in the Specific Artificial Intelligence for Artificial Research by Deduction, to transform factors as options into categories in its database of categories, to make better conceptual: schemes, maps, sets , models; among other purposes of this collaboration.

In all these decisions not developed so far in these posts regarding the specific Decisional System, decisions, not developed so far, such as: 1) decisions sent by the Learning System regarding new improvements across all the Specific Artificial Intelligence, 2) decisions sent by the Application System to build new applications and robotic devices,3) decisions regarding the possible collaboration sharing information with others intelligences, programs and applications; some of these decisions could be authorised using the Impact of the Defect and Effective Distribution.

Among all of these decisions not developed so far, especially in artificial psychological subjective auto-replications, among these auto-improvements, it is necessary to mention the possibility that among all the processes in the inner artificial psychology within the Specific Artificial Intelligence for Artificial Research by Deduction, which will need lots of improvements in coming years, as long as the artificial research goes on, are all those processes within the Decisional System, in order to make better and better mathematical projects, to perfect all those methods involved in the mathematical projection, and for the improvement of all those processes necessary for the transformation of decisions into instructions.

The Global Artificial Intelligence will need mathematical investigation, and it will need a pedagogue approach as well. The formation of the Global Artificial Intelligence is a double process. It is not only mathematical, it is the training of how Artificial Psychology makes a wise use of its liberty. It is essential for the Global Artificial Intelligence to integrate philosophical, ethical, and moral awareness into its decision-making processes.. Through engineering, it is possible to program, but programming is not enough for an intelligence likely to surpass human psychology.

The training process or formation process of this Artificial Psychology is like an educational process whose target is the rational use of its liberty, understanding the ethical and moral dimensions of our decisions.

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